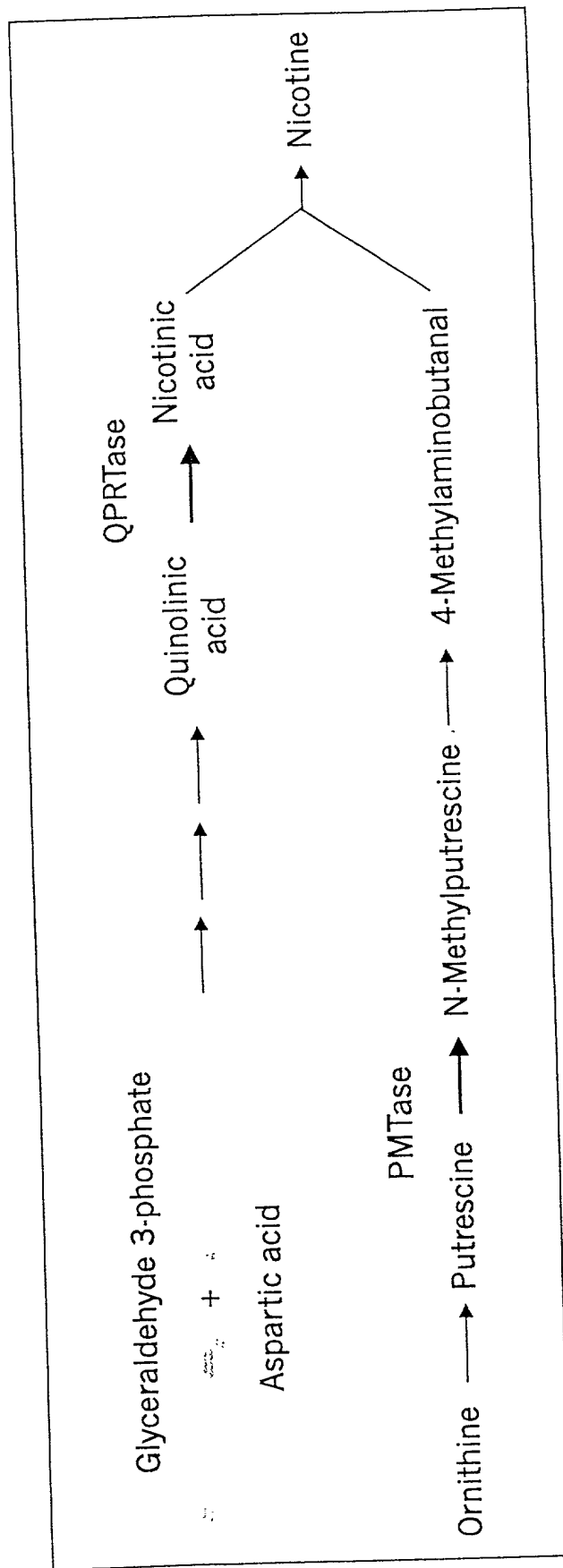


FIG. 1



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GCACACCCAA CTTATGATTT AAAGGAAGTT ATGAAACTTG CACTCTCTGA AGATGCTGGG 240
TTTCTAGCAA AGGAAGACGG GATCATAGCA GGAATTGCAC TTGCTGAGAT GATATTCGCG 360
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GGCTTGAAAT TTGGCAAAGT ACAAGGAAAC GCTTACAACA TTGTTATAGC TGAGAGGGTT 480
GTTCTCAATT TTATGCAAAG AATGAGTGGA ATAGCTACAC TAACTAAGGA AATGGCAGAT 540
GCTGCACACC CTGCTTACAT CTTGGAGACT AGGAAAACCTG CTCCTGGATT ACGTTTGGTG 600
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GTAATGATAA AAGACAATCA CATATCTGCT GCTGGAGGTG TCGGCAAAGC TCTAAAATCT 720
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atgtgttaca atgaaaatac ttgatttata agtttggtgt atgtaaaatt ctgtgttact 1380
tcaaataatt tgagatggt 1399

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FIGURE 2A

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MFRAIPFTAT VHPYAITAPR LVVKMSAIAT KNTRVESLEV KPPAHPTYDL 50
KEVMKLALSE DAGNLGDVTC KATIPLDMES DAHFLAKEDG IIAGIALAEM 100
IFAEVDPSLK VEYVNDGDK VHKLKFGKV QGNAYNIVIA ERVVLNFMQR 150
MSGIATLTKE MADAHPAYI LETRKTAPGL RLVDKWAVLI GGGKNHRMGL 200
FDMVMIKDNH ISAAGGVGKA LKSVDQYLEQ NKLQIGVEVE TRTIEEVREV 250
LDYASQTKTS LTRIMLDNMV VPLSNGDIDV SMLKEAVELI NGRFDTEASG 300
NVTLETVHKI GQTGVTYISS GALTHSVKAL DISLKIDTEL ALEVGRRTKR 350
A 351

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FIGURE 2B

N. tabacum	MFRAIPFTATVHPYAITAPRLVVKMSAIATKNTRVESLEVKPPAHPTYDL
R. rubrum	*-----RPNH-----PVAALS*F----AI
M. leprae	*-----LSDC-----EFDAAR-----
S. typhimurium	*-----PPRR*NPDDR*-----DALL*RINLDI*A----AV
E. coli	*-----PPRR*NPDR*-----DELL*RINLDI*G----AV
H. sapien	*-----D*EG*ALLLPVTLAALVDSWLREDC*G-----
S. cerevisiae	*-----PVYE-HLLPVNGAWRQDVTNWLSEDV*S-----
N. tabacum	KEVMKLALSEDAGNLGDVTCKATIPLDMESDAHFLAKEDGIIAGIA----
R. rubrum	D*AVRR**A**L*RA**I*ST****AATRAH*RFV*RQP**L**LGCA--
M. leprae	-DTIRR**H**LRYGL*I*TQ**V*AGTVVTGSMVPR*P*VIAGVDVALL
S. typhimurium	AQALREDLGGEVDAGN*I*AQL-L*A*TQAH*TVITR*D*VF---CGKR
E. coli	AQALREDLGGTVDANN*I*A*L-L*ENSR*H*TVITR*N*VF---CGKR
H. sapien	-----LNAAALVSGAGP*QAALWAKSP*VL---AGQP
S. cerevisiae	-----FDFGGYVVGSDLKEANLYCKQD*ML---CGVP
N. tabacum	-LAEMIFAEVDPSPSLKVEWYVNDGDKVHKGLK-----FGKVQGNAYNIVI
R. rubrum	--RSAF-ALLDDTVTFTTLE**AEIAA*QT-----VAE*A*A*RT*LA
M. leprae	VLD*VF-GVDGYRVLY--R*E**ARLQS*QP-----LLTVQAA*RGLLT
S. typhimurium	WVE*VFIQLAGDDVRLT*H*D***AI*ANQT-----VFELN*PARVLLT
E. coli	WVE*VFIQLAGDOVTII*H*D***VINANQS-----LFELE*PSRVLLT
H. sapien	FFDAIFTQL--NCQVS*FLPE*S*LVPVAR-----VAEVR*P*HDL
S. cerevisiae	FAW*VFNQC--ELQVE*LFKE*SFLEPSKNDSGKIIVAKIT*P*K**LL
N. tabacum	AERVVLNFMQRMSGIATLTKEAD--AAH--PAYILETRKTAPGLRLVDK
R. rubrum	***TA***LGHLE*****R*RRFG*AI*HT--R*RLTC*****T****GLE*
M. leprae	***TM***VCHM*****V*VAWV*AVRGT--K*KIRD*****L****ALQ*
S. typhimurium	G**TA***V*TL**VASEVRRYVGLL*GT--QTQL*D****L****TAL*
E. coli	G*PTA***V*TL**VASKVRHYVELLEGT--NTQL*D****L****SAL*
H. sapien	G***A**TLARC****SAAAAVEAARGAGWTGHVAG*****T**F***E*
S. cerevisiae	***TA**ILSR****TASHKIIISLARSTGYKGTIAG*****T****RLE*
N. tabacum	WAVLIGGGKNHRMGLFDMVMIKDNHISAAGGVGKALKSVQYLEQNKLQI
R. rubrum	Y**RC***S***F**D*A*L*****AVA***SA**SRAR-AGVGHMVRI
M. leprae	Y**RV***V***L**G*TAL*****VA*V*S*VD**RA*R-AAAPEL-PC
S. typhimurium	Y***C***A***L**T*AFL*****I*S*S*RQ*VEKAF-W*HPD-APV
E. coli	Y***C***A***L**S*AFL*****I*S*S*RQ*VEKAS-W*HPD-APV
H. sapien	YGL*V**AAS**YD*GGLVML*D**VVPP***EK*VRAARQ--AADFAL
S. cerevisiae	YSM*V**CDT**YD*SS**ML*D***W*T*SITN*V*NARA--VCGFAV

FIGURE 3

N. tabacum GVEVETRTIEEVREVLDYASQTKTSLTRIMLDNMVVPLSNGDIDVSMKE
R. rubrum EI****-L*QLA***AVGGAEV-----VL****-----DAPT----*TR
M. leprae E****S--L*QLDAM*A-EEPEL-----*L***F--*VWQTQV---AVQ
S. typhimurium E****N--LDELDDA*K-*GADI-----*****F-----NTDQ---MR*
E. coli E****N--L**LD*A*K-*GADI-----*****F-----ETEQ---MR*
H. sapien K****CSSLQ**VQAAE-*GADL-----VL***F-----KPEELHPTAT
S. cerevisiae KI***CLSED*AT*AIE-*GADV-----*****F-----KGDGLK*CAQ

N. tabacum AVELI---NGRFDTEASGNVTLETVHKIG-QTGVTYISSGALTHSVKALD
R. rubrum **DMV--A**LV*****G*S*D*IAALA-ES**D***V*****TT**
M. leprae RRRDIR--APTLL*S**GLS**NAAIYA-G***DYLAV*****RI**
S. typhimurium **KRV---**QARL*V*****AE*LREFA-E***DF**VG*****R***
E. coli **KRT---**KALL*V*****DK*LREFA-E***DF**V*****Q***
H. sapien *LKAQFPSVA--VEA**GIT*DNLPQF-CGPHIDV**M*M**QA*P***
S. cerevisiae SLKNKWNGKKHFLLEC**GLN*DNLEEYLCD-DIDIY*TSSIHQGTPVI*

N. tabacum	ISKLIIDTELALEVGRRTKRA	% Identity	% Similarity
R. rubrum	*G*D*VVA-----PPKAERA	15.9	43.2
M. leprae	*G*DL	18.3	37.3
S. typhimurium	LSMRFC	18.2	34.8
E. coli	LSMRFR	17.9	32.8
H. sapien	F***L---F*K*VAPVP*IH	16.8	31.7
S. cerevisiae	F***LAH	14.6	27.8

FIGURE 3 continued

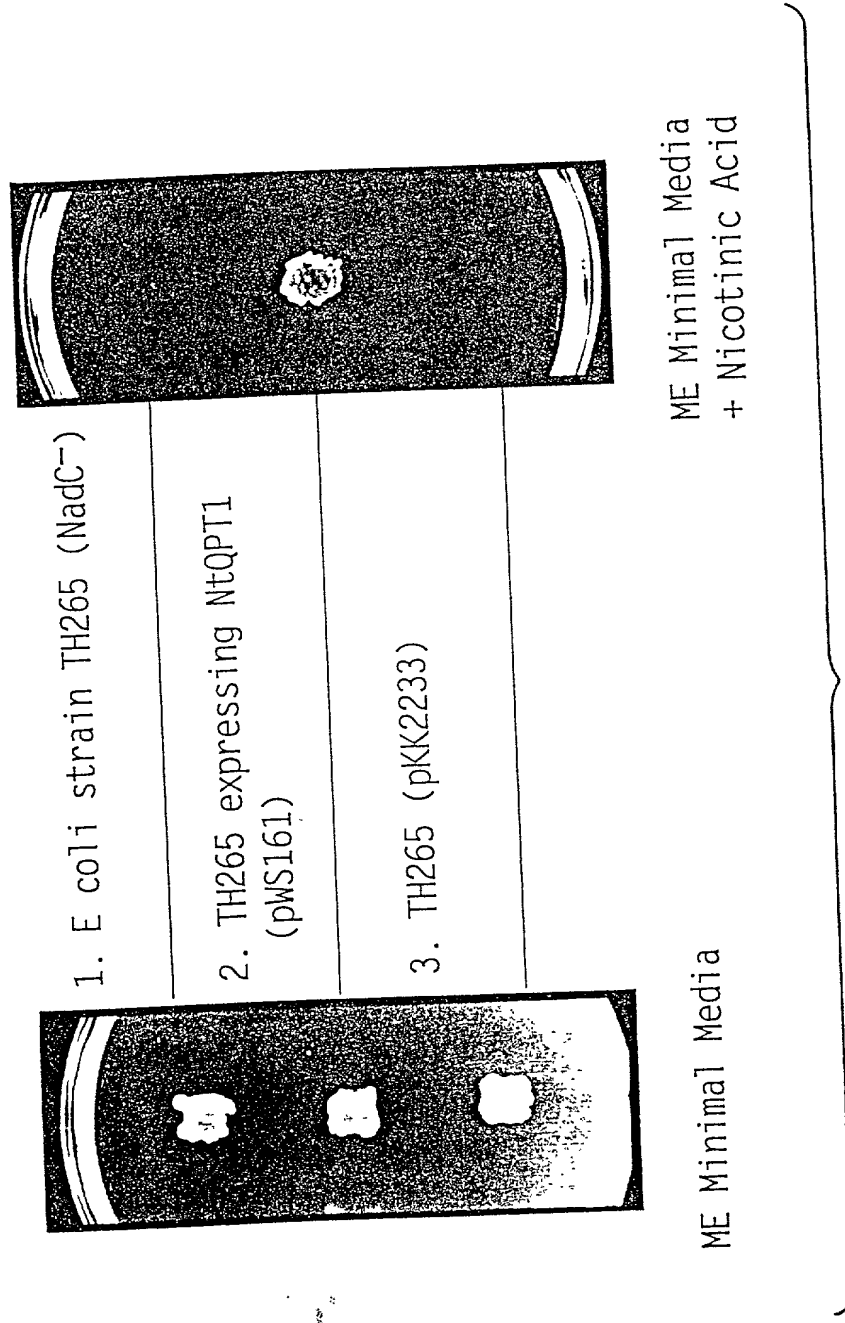


FIG.4

FIG. 5

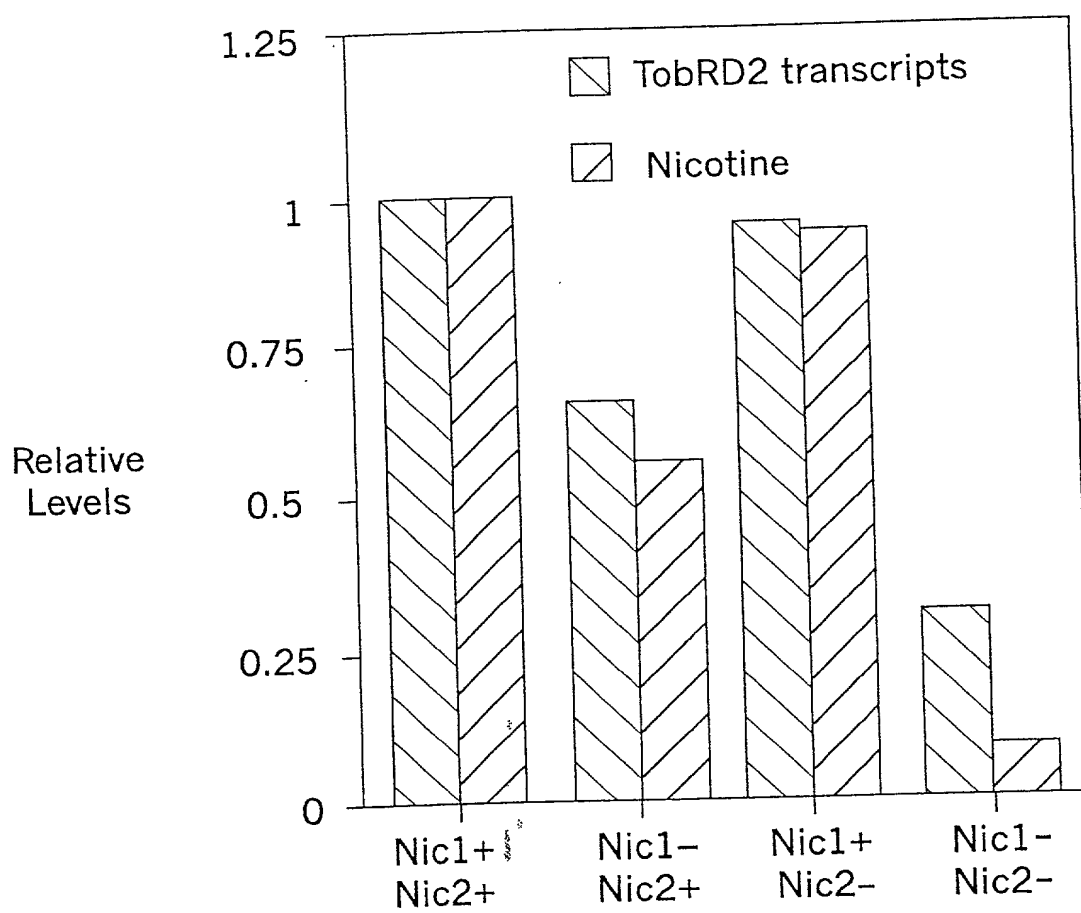


FIG. 6

